

SRM University, Delhi-NCR, Sonapat, Haryana
Department of Agriculture Science



CURRICULUM & SYLLABUS

of

B.Sc. (H) AGRICULTURE (FOUR YEAR DEGREE PROGRAMME)

(w.e.f. AY 2021-22 onwards)

Under the Choice Based Credit System (CBCS)

DEPARTMENT OF AGRICULTURE SCIENCE
FACULTY OF SCIENCE, HUMANITIES & SOCIAL SCIENCES
SRM UNIVERSITY, DELHI-NCR, SONEPAT, HARYANA

Vision

SRM University Delhi-NCR, Sonapat, Haryana aims to emerge as a leading world-class university that creates and disseminates knowledge upholding the highest standards of instructions in Medicine & Health Sciences, Engineering & Technology, Management, Law, Science and Humanities. Along with academic excellence and skills, our curriculum imparts integrity and social sensitivity to mould our graduates who may be best suited to serve the nation and the world.

Mission

- ❑ To create a diverse community campus that inspires freedom and innovation.
- ❑ Promote excellence in educational and skill development processes.
- ❑ Continue to build productive international alliances.
- ❑ Explore optimal development opportunities available to students and faculty.
- ❑ Cultivate an exciting and rigorous research environment.

Agriculture Science Graduate Attributes

Successful completion of an undergraduate programme will endow the learners/ aspirants with the following attributes:

- ❑ Sound knowledge and understanding of the domain area
- ❑ Critical thinking, analytical mind and decision-making mindset
- ❑ Originality and creativity in formulating, evaluating and applying evidence-based arguments
- ❑ Ability to identify and draw synergy between/among events and/or aspects/theories to provide a wider, deeper and critical understanding and solution to problems
- ❑ Effective communication skills – Reading, Writing, Speech and thoughts
- ❑ Working on your own initiative.

Programme Educational Objectives (PEOs)

PEO 1 : Graduates of the program will accommodate insightful information of Agriculture principles necessary for the applications of Agriculture.

PEO 2 : Graduates of the program will acquire knowledge of recent trends in technology and solve problem in industry and farmers.

PEO 3 : Graduates of the program will have practical experience and interpersonal skills to work both in local and international environments.

PEO 4 : Graduates of the program will possess creative professionalism, understand their ethical responsibility and committed towards society.

PEO 5 : Graduates of the program shall be able to Critically evaluate and reflect learning and development throughout their career in agriculture sciences.

Programme Educational Outcomes (PLOs)

Agriculture Graduates will be

PLO 1: Able to evaluate critical and intricate agricultural related issues by using quantitative and qualitative research techniques and evolve effective solutions.

PLO 2 : Able to formulate solutions to field and scientific problems in crop production and cropping systems.

PLO 3 : Demonstrate ability for self-directed learning, time management and dedication to serve the community by working effectively individually as well as in teams. Display initiative, honesty, integrity and diligence by empathizing with farmers.

PLO 4 : Evaluate impact of globalization and liberalisation on the agriculture sector and farmers in particular. Ability to understand technological advancements and implications and applying them for developing adaptability and managing diversity in global complex situations.

PLO 5 : Analyze the role and impact of agriculture in society and the international community Learn to appreciate diversity and equality, demonstrate ethical and professional behaviours in all situations.

PLO 6 : Relate the value of linkages and networks with their importance in self-reliance and research. Linking learning to real world problems to stimulate professionalism in research.

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Mapping Matrix of PEOs & PLOs:

	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6
PEO-1	√					
PEO-2		√				
PEO-3			√			
PEO-4				√	√	
PEO-5						√

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B.Sc. (Hons.) Agriculture
Semester 1

S. No	Paper Code	Course Title	L	T	P	Cr
1.		Fundamentals of Agronomy	3	0	2	4
2.		Fundamentals of Agricultural Economics	2	0	0	2
3.		Fundamentals of Genetics	2	0	2	3
4.		Communication Skills and Personality Development	2	0	0	2
5.		Fundamentals of Soil Science	2	0	2	3
6.		Soil and Water Conservation Engineering	1	0	2	2
7.		Agricultural Heritage	1	0	0	1
8.		Introductory Biology/ Elementary Mathematics **	2	0	0	2
9.		Introduction to Forestry	1	0	2	2
10		IT Skills	1	0	2	2
11		Foreign Language #	1	0	2	2
			17	0	12	25

**Student will have to opt either of these courses on the basis courses studied in 10+2.

Students may select any one Foreign Language German/French.

Semester 2

S. No	Paper Code	Course Title	L	T	P	Cr
1		Agricultural Microbiology	1	0	2	2
2		Fundamentals of Agricultural Extension Education	2	0	2	3
3		Fundamentals of Crop Physiology	1	0	2	2
4		Fundamentals of Entomology	3	0	2	4
5		Fundamentals of Horticulture	1	0	2	2
6		Fundamentals of Plant Biochemistry and Biotechnology	2	0	2	3
7		Fundamentals of Plant Breeding	2	0	2	3
8		Agri- Informatics	1	0	2	2
9		Comprehension & Communication Skills in English	1	0	2	2
10		Human Values & Ethics	1	0	0	1
11		Effective Communication Skills	0	0	2	1
			15	0	20	25

L: Lecture; T: Tutorial; P: Practical; Cr: Credit

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Semester 3

S. No	Paper Code	Course Title	L	T	P	Cr
1		Crop Production Technology – I (<i>Kharif Crops</i>)	1	0	2	2
2		Fundamentals of Plant Pathology	3	0	2	4
3		Agricultural Finance and Cooperation	2	0	2	3
4		Farm Machinery and Power	1	0	2	2
5		Principles of Seed Technology	1	0	4	3
6		Production Technology for Vegetables and Spices	1	0	2	2
7		Statistical Methods	1	0	2	2
8		Livestock and Poultry Management	3	0	2	4
9		Rural Sociology & Educational Psychology	2	0	0	2
10		NSS/NCC/Physical Education & Yoga Practices	0	0	4	2
11		Live Project & Industrial Visit	0	0	2	1
12		Team Work & Interpersonal Skills	0	0	2	1
			15	0	26	28

Semester 4

S. No	Paper Code	Course Title	L	T	P	Cr
1		Crop Production Technology –II (<i>Rabi Crops</i>)	1	0	2	2
2		Production Technology for Ornamental Crops, MAP and Landscaping	1	0	2	2
3		Renewable Energy and Green Technology	1	0	2	2
4		Manures, Fertilizers and Soil Fertility Management	2	0	2	3
5		Production Technology for Fruit and Plantation Crops	1	0	2	2
6		Farming System & Sustainable Agriculture	1	0	0	1
7		Agricultural Marketing Trade & Prices	2	0	2	3
8		Introductory Agro-meteorology & Climate Change	1	0	2	2
9		Environmental Studies and Disaster Management	2	0	2	3
10		NSS/NCC/Physical Education & Yoga Practices	0	0	4	2
11		Elective Course#	2	0	2	3
12		Live Project & Industrial Visit	0	0	2	1
13		Presentation & Speaking Skills	0	0	2	1
			14	0	26	27

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Semester 5

S. No	Paper Code	Course Title	L	T	P	Cr
1		Principles of Integrated Pest and Disease Management	2	0	2	3
2		Problematic Soils and their Management	2	0	0	2
3		Pests of Crops and Stored Grain and their Management	2	0	2	3
4		Diseases of Field and Horticultural Crops and their Management -I	2	0	2	3
5		Crop Improvement-I (<i>Kharif Crops</i>)	1	0	2	2
6		Entrepreneurship Development and Business Communication	1	0	2	2
7		Geoinformatics and Nano-technology and Precision Farming	1	0	2	2
8		Practical Crop Production – I (<i>Kharif crops</i>)	0	0	4	2
9		Intellectual Property Rights	1	0	0	1
10		Elective Course#	2	0	2	3
11		Live Project & Industrial Visit	0	0	2	1
12		Professional Writing Skills & Interpersonal Skills: Strategies	0	0	2	1
			14	0	22	25

Semester 6

S. No	Paper Code	Course Title	L	T	P	Cr
1		Rainfed Agriculture & Watershed Management	1	0	2	2
2		Protected Cultivation and Secondary Agriculture	1	0	2	2
3		Diseases of Field and Horticultural Crops and their Management-II	2	0	2	3
4		Post-harvest Management and Value Addition of Fruits and Vegetables	1	0	2	2
5		Management of Beneficial Insects	1	0	2	2
6		Crop Improvement-II (<i>Rabi crops</i>)	1	0	2	2
7		Practical Crop Production –II (<i>Rabicrops</i>)	0	1	4	2
8		Principles of Organic Farming	1	0	2	2
9		Farm Management, Production & Resource Economics	1	0	2	2
10		Principles of Food Science and Nutrition	2	0	0	2
11		Elective Course#	2	0	2	3
			13	1	22	24

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Semester 7

STUDENT READY PROGRAMME -I

Modules for Skill Development and Entrepreneurship: A student has to register 20 credits opting for two modules of (0+10) credits each (total 20 credits) from the package of modules in the **VII semester.**

S. No	Paper Code	Course Title	L	T	P	Cr
1		Production Technology for Bioagents and Biofertilizer	0	1	20	10
2		Seed Production and Technology	0	1	20	10
3		Mushroom Cultivation Technology	0	1	20	10
4		Commercial Beekeeping	0	1	20	10
5		Agriculture Waste Management	0	1	20	10
6		Floriculture and Landscaping	0	1	20	10
7		Commercial Horticulture	0	1	20	10
30		Poultry Production Technology	0	1	20	10
30		Food Processing	0	1	20	10
30		Organic Production Technology	0	1	20	10
11		Commercial Sericulture	0	1	20	10
12		Soil, Plant, Water and Seed Testing	0	1	20	10
						20

Syllabus of the modules will be decided in the next BOS meeting

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Semester 8

STUDENT READY PROGRAMME –II (RAWE)

SN.	Rural Agricultural Work Experience and Agro-industrial Attachment (RAWE & AIA)		
	Activities	No. of weeks	Credit Hours
1	General orientation & On campus training by different faculties	1	14
2	Village attachment	8	
	Unit attachment in Univ./ College. KVK/ Research Station Attachment	5	
3	Plant clinic	2	02
	Agro-Industrial Attachment	3	04
4	Project Report Preparation, Presentation and Evaluation	1	
Total weeks for RAWE AIA		20	20

SN.	Paper Code	Course Title	L	T	P	Cr
1		General orientation & On campus training by different faculties Village attachment Unit attachment in Univ./ College. KVK/ Research Station Attachment	0	1	28	14
2		Plant clinic	0	1	4	2
3		Agro-Industrial Attachment	0	1	8	4
						20

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RAWE
Village Attachment Training Programme

Component-I

Sl. No.	Activity	Duration
1	Orientation and Survey of Village	1 week
2	Agronomical Interventions	1 week
3	Plant Protection Interventions	1 week
4	Soil Improvement Interventions (Soil sampling and testing)	1 week
5	Fruit and Vegetable production interventions	1 week
6	Food Processing and Storage interventions	
7	Animal Production Interventions	1 week
8	Extension and Transfer of Technology activities	1 week

RAWE Component –II
Agro Industrial Attachment

Agro- Industrial Attachment: The students would be attached with the agro-industries for a period of 3 weeks to get an experience of the industrial environment and working

- Students shall be placed in Agro-and Cottage industries and Commodities Boards for 03 weeks.
- Industries include Seed/Sapling production, Pesticides-insecticides, Post harvest-processing-value addition, Agri-finance institutions, etc.

Activities and Tasks during Agro-Industrial Attachment Programme

- Acquaintance with industry and staff
- Study of structure, functioning, objective and mandates of the industry
- Study of various processing units and hands-on trainings under supervision of industry staff
- Ethics of industry
- Employment generated by the industry
- Contribution of the industry promoting environment
- Learning business network including outlets of the industry
- Skill development in all crucial tasks of the industry
- Documentation of the activities and task performed by the students
- Performance evaluation, appraisal and ranking of students

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Elective Courses: A student can select three elective courses out of the following and offer during 4th, 5th and 6th semesters.

S. No	Paper Code	Course Title	L	T	P	Cr
1		Agribusiness Management	2	0	2	3
2		Agrochemicals	2	0	2	3
3		Commercial Plant Breeding	1	0	4	3
4		Landscaping	2	0	2	3
5		Food Safety and Standards	2	0	2	3
6		Biopesticides & Biofertilizers	2	0	2	3
7		Protected Cultivation	2	0	2	3
8		Micro propagation Technologies	1	0	4	3
9		Hi-tech. Horticulture	2	0	2	3
10		Weed Management	2	0	2	3
11		System Simulation and Agro-advisory	2	0	2	3
12		Agricultural Journalism	2	0	2	3

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Modules for Skill Development and Entrepreneurship: A student has to register 20 credits opting for two modules of (0+10) credits each (total 20 credits) from the package of modules in the **VII semester**.

Sr.	Title of the module	Credits
1.	Production Technology for Bioagents and Biofertilizer	0+10
2.	Seed Production and Technology	0+10
3.	Mushroom Cultivation Technology	0+10
4.	Soil, Plant, Water and Seed Testing	0+10
5.	Commercial Beekeeping	0+10
6.	Poultry Production Technology	0+10
7.	Commercial Horticulture	0+10
8.	Floriculture and Landscaping	0+10
9.	Food Processing	0+10
10.	Agriculture Waste Management	0+10
11.	Organic Production Technology	0+10
12.	Commercial Sericulture	0+10

NOTE: In addition to above ELP modules other important modules may be given to the students by the university

Evaluation of Experiential Learning Programme/ HOT

Sl.No.	Parameters	Max. Marks
1.	Project Planning and Writing	10
2.	Presentation	10
3.	Regularity	10
4.	Monthly Assessment	10
5.	Output delivery	10
6.	Technical Skill Development	10
7.	Entrepreneurship Skills	10
8.	Business networking skills	10
9.	Report Writing Skills	10
10.	Final Presentation	10
	Total	100